

Resinlab® SEC1233 Silver Filled Epoxy Adhesive

Category : Polymer , Adhesive , Thermoset , Epoxy , Epoxy Adhesive

Material Notes:

Resinlab™ SEC1233 is a silver filled, two component, room temperature curing epoxy adhesive. It is designed to cure completely at room temperature. SEC1233 provides excellent electrical conductivity useful in many electronic applications. It is a soft 100% solids thixotropic paste provided in a 1:1 ratio. It is recommended to mix by weight but extrusion of equal length beads from syringes is commonly used as a method of measurement as small quantities are commonly used. It also can be packaged in small side-by-side dispensing cartridges for use with static mixers. This system is also available in a pre-mix and frozen format. SEC1233 provides exceptionally high conductivity starting immediately after mixing and improves as the curing process proceeds. It also has the additional benefit of very high thermal conductivity due to its high silver loading. It gives good environmental protection while having tenacious adhesion to various metals and other common assembly materials. Information Provided by Resinlab L.L.C., an Ellsworth Adhesives Company.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Resinlab-SEC1233-Silver-Filled-Epoxy-Adhesive.php

Physical Properties	Metric	English	Comments
Specific Gravity	3.90 g/cc	3.90 g/cc	Mixed; TM R050-16
Water Absorption	<= 0.20 %	<= 0.20 %	TM R050-35
	@Time 86400 sec	@Time 24.0 hour	
Viscosity	29500 cP	29500 cP	10.0 rpm; TM R050-12
	82250 cP	82250 cP	5.0 rpm; TM R050-12
	172000 cP	172000 cP	Mixed, 2.5 rpm; TM R050-12

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	50	50	TM R050-17
Tensile Strength at Break	2.76 MPa	400 psi	TM R050-36
Tensile Strength, Ultimate	3.10 MPa	450 psi	TM R050-36
Tensile Strength, Yield	3.10 MPa	450 psi	TM R050-36
Elongation at Break	20 - 30 %	20 - 30 %	TM R050-36
Tensile Modulus	0.0689 GPa	10.0 ksi	TM R050-36
Compressive Yield Strength	13.8 MPa	2000 psi	TM R050-38
Compressive Strength	51.7 MPa	7500 psi	Break; TM R050-38
	51.7 MPa	7500 psi	Ultimate; TM R050-38
Compressive Modulus			TM R050-38

Mechanical Properties	0.0758 GPa Metric	11.0 ksi English	Comments
Adhesive Bond Strength	4.14 MPa	600 psi	Lap shear; 2024 T3 Al Abraded / MEK Wipe; TM R050-37

Thermal Properties	Metric	English	Comments
CTE, linear	58.0 $\mu\text{m}/\text{m}\cdot\text{°C}$	32.2 $\mu\text{in}/\text{in}\cdot\text{°F}$	below Tg
	@Temperature ≤ 40.0 °C	@Temperature ≤ 104 °F	
	120 $\mu\text{m}/\text{m}\cdot\text{°C}$	66.7 $\mu\text{in}/\text{in}\cdot\text{°F}$	above Tg
	@Temperature ≥ 40.0 °C	@Temperature ≥ 104 °F	
Thermal Conductivity	1.60 W/m-K	11.1 BTU-in/hr-ft ² -°F	
Maximum Service Temperature, Air	150 °C	302 °F	
Minimum Service Temperature, Air	-40.0 °C	-40.0 °F	
Glass Transition Temp, Tg	40.0 °C	104 °F	TM R050-25

Electrical Properties	Metric	English	Comments
Volume Resistivity	0.00030 ohm-cm	0.00030 ohm-cm	Cured: 1 hour at 60°C
	0.00090 ohm-cm	0.00090 ohm-cm	Cured: 96 hours at 25°C
	0.0016 ohm-cm	0.0016 ohm-cm	Cured: 24 hours at 25°C

Processing Properties	Metric	English	Comments
Cure Time	60.0 min	1.00 hour	
	@Temperature 60.0 °C	@Temperature 140 °F	
	1440 - 4320 min	24.0 - 72.0 hour	
	@Temperature 25.0 °C	@Temperature 77.0 °F	
Pot Life	60 min	60 min	Mass: 5g; TM R050-19

Descriptive Properties	Value	Comments
Color	Silver	

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